H. Bercovier 15/04/2020

BACK TO WORK

We suggest the following strategy

MANDATORY Measures BEFORE returning to work

1) Reduce number of staff in each shift in all the hospitals and give proper PPE (Test Staff on a regular basis). This will help reduce risk of Hospitals to be amplifiers of COVID-19 and will protect the staff. Dilute a maximum of patients. Control entry to Hospitals (already done).

2) Step up RT-PCR tests (and serology when available) to 50,000 test/day x months (equipment, material, reagents, staff trained, PPE provided, Locations, communication tools)

3) Prepare stock of PPE for 6000 epidemiology staff and for Fever Clinics/day x month

4) Constitute 1500 teams of "new epidemiologists". For this recruit 6000 people below 45 years of age (Epidemiologists from Academia, Veterinarian, Dentists, former paramedics, Tax officers, Volunteers, etc...) (with "Pikoud ha horef") to constitute 1500 teams of "new epidemiologists", with a minimum of 4 people/team to reach and sample (with questionnaire) anyone with symptoms and its contacts. Provide them with two days swift training in safety and sampling methods (Case registration on a tablet linked to a Central MOH server dedicated to this, sampling, where to send the samples, when to come back and test again, etc..).

5) Fever Clinics in each neighborhood to be established with existing clinics of the different Kupat Holim. (Publicize well their locations). –Test all visitors to fever clinics.

6) Isolate all suspects and contacts until results of tests in 24 h.

7) The police is organizing itself to control the application of these measures.

8) For people tested positive: Home or hotels with STRICT Isolation according to feasibility or transfer to hospitals if necessary. Date for retesting to evaluate Virus load and reporting evolution of symptoms.

9) **Full Shielding is imperative for Retirement homes** or alternative measures (see picture at the end of the doc).

10) To lower exposure of the shielded and quarantined remaining population, distance and **mask** wearing should **be enforced at interaction points**.

11) Health passport (on cellphone or KH card)?

Then life for all the below 60 Years old should restart. IF frightened, start with below 40 Y old.

Background

Time to make a preliminary summary on the Pandemics of COVID-19

The 9 hard facts on April 15, 2020

1) People <65 years old and not having any underlying predisposing conditions accounted for only 0.3%, 0.7%, and 1.8% of all COVID-19 deaths in Netherlands, Italy, and New York City. CONCLUSIONS: People <65 years old have very low risk of COVID-19 death even in the hotbeds of the pandemic and **deaths for people <65 years without underlying predisposing conditions are remarkably uncommon**. Strategies focusing specifically on protecting high-risk elderly individuals should be considered in managing the pandemic. (**doi:** https://doi.org/10.1101/2020.04.05.20054361).

Indeed at the 9/04/2020:

Country	Total cases confirmed	Total cases estimated	Total deaths COVID-19	Total deaths age 0- 40-45 Y*
Italy	136,000	NA	16,654	43
Spain	153,000	NA	15,447	37
France	86,000	1.5 Million	12,000	65

* Of the deaths below age 45, 50% COVID-=19 patients had at least one co-morbidity (Diabetes, Heart disease, High blood pressure, chronic lung disease)

2) From 0 to 45 years, there is no excess of mortality in Europe (week 14, https://www.euromomo.eu/bulletin_pdf/2020/2020_14_bulletin.pdf)

3) Only age groups 65 and more have a significant excess of mortality (45-65%).

4) Data from Spain show for the population less than 65Y old, a 16% increase of mortality (mainly for 45-65 Y) whereas for 65-74 y it is 53% and for 75 y plus 64.7%. (https://www.isciii.es/QueHacemos/Servicios/VigilanciaSaludPublicaRENAVE/EnfermedadesTransmisibles/MoMo/Documents/informesMoMo2020/MoMo_Situacion%20a%207%20de%20abril_CNE.pdf)

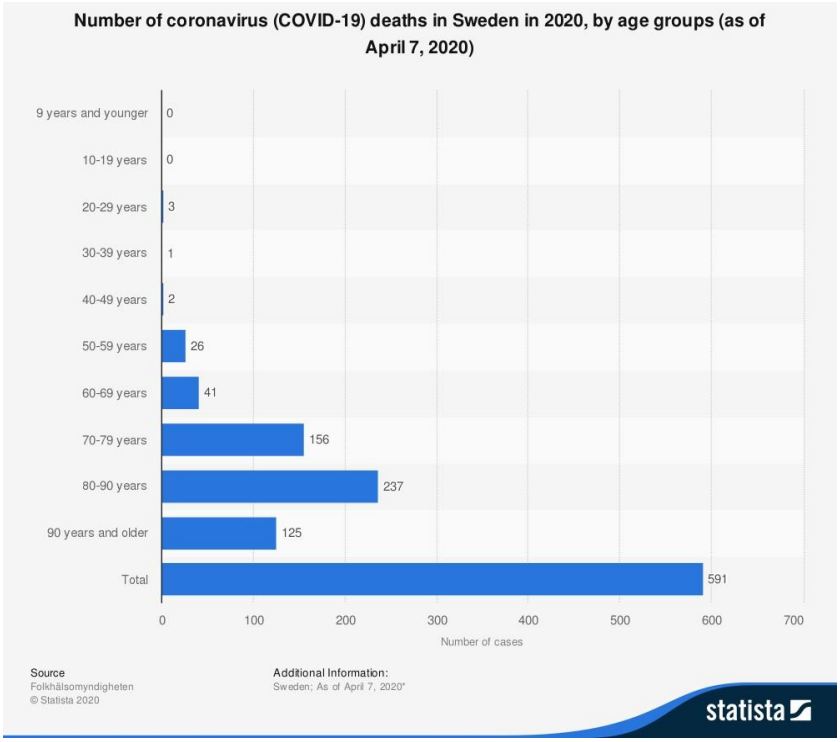
5) With the analysis of the actual situation (see Table) and the above data, it is clear that if 65 years old plus and high risk co-morbidities groups are shielded, one can release, without fear for their health, first all the population below 40-45 years old. This will result in a herd immunity covering, in Israel, 65 % of the total population. This can be assessed by a proper serological survey within a month. Similar survey can be done in the quarantined 45-65 years group. According to the results part or the whole group could be also released.

6) **Full Shielding is imperative for Retirement homes** (this will prevent 30-40% of all deaths).

7) Home quarantine of 65 years old plus and high risk-co-morbidity individuals will prevent another 30%-40% of all deaths. With this two measures, Hospitals will be able to function normally with more than 60% of ICU beds made available for younger COVID-19 patients.

8) To prevent high exposure of the shielded and quarantined remaining population, distance and mask wearing should be continued at interaction points.

9) Sweden (10 Million inhabitants with 20.4% of the population over 65 Y old) COVID-19 mortalities data, with rather relax measures for confinement, support this proposal:



Measures to go back to work, the problems are not the COVID19 patients, the only problem is MOH and lack of staff. The Eleven Commandments.

Introduction from WHO report (WHO report https://www.who.int/docs/default-source/coronaviruse/who-china-joint-mission-on-covid-19-final-report.pdf).

China has a policy of meticulous case and contact identification for COVID-19. For example, in Wuhan (11 Million inhabitants) more than 1800 teams of epidemiologists, with a minimum of 5 people/team (=9000 staff), are tracing tens of thousands of contacts a day: "Contact follow up is painstaking, with a high percentage of identified close contacts completing medical observation. Between 1% and 5% of contacts were subsequently laboratory confirmed cases of COVID-19, depending on location."

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What can we expect?

Scenario 1 for Israel based on data from Spain 12/04/2020

IF we use the data from Spain on April 12, (see below table) and

Table 1 COVID-19 cases and Mortality (absolute and per million) in Spain on April 12, 2020 with projections for Israel

Age	Number		Mortality Spain 12/04	Predicted in Israel*
	Both sexes	Population	Death/million	population/Cases
<2	1	744985	1,3	
2-4	0	1284642	0	0-4Y =0.8M 1
5-14	**1**	4859799	0.2	1.7M 1
15-29	**17**	7212817	2.4	1.9M 5
30-39	**35**	6167588	5.7	1.2M 7
40-49	**109**	7813176	14	1.1M 16
50-59	**281**	6974009	40	0.9M 36
60-69	**873**	5281877	165	0.8M 132
70-79	**2607**	3900550	668	0.4M 267
80+	**5558**	2860952	1943	0.3M 583
		47100395		9.1M **1048**
SPAIN deaths	**9482**			*Preventable: 600 (retirement homes, high risks population)*
Total Cases	**119,994**			
Israel predicted				**448**

- *My prediction, Age adjusted according to the Israeli age group population.
- Limited testing and challenges in the attribution of the cause of death means that the number of confirmed deaths may not be an accurate count of the true total number of deaths from COVID-19.

Spain Sources: https://www.ecdc.europa.eu/en/covid-19/all-reports-covid-19
https://en.wikipedia.org/wiki/2020_coronavirus_pandemic_in_Spain
https://www.ine.es/jaxiT3/Datos.htm?t=31304#!tabs-tabla
https://www.isciii.es/QueHacemos/Servicios/VigilanciaSaludPublicaRENAVE/EnfermedadesTransmisibles/Paginas/InformesCOVID-19.aspx

Table 2 Mortalities per million in selected countries End of March, Early April

	AGE	0 - 9	10 - 19	20 - 29	30 - 39	40 - 49	50 - 59	60 - 69	70 - 79	80+	TOTAL	
DIAMOND PRINCESS	Deaths	0	0	0	0	0	0	1	7	4	**12**	a
	Population	16	23	347	428	334	398	923	1015	216	**3700**	
	Deaths per million pop	0	0	0	0	0	0	1083	6897	18519	**3243**	
SOUTH KOREA	Deaths	0	0	0	1	1	10	21	45	80	**158**	a
	Population (000)	4154	4753	6716	7080	8219	8477	6454	3561	1856	**51270**	
	Deaths per million pop	0	0	0	0	0	1	3	13	43	**3**	
ITALY	Deaths	0	0	2	20	89	369	1162	3456	4923	**10021**	b
	Population (000)	4995	5733	6103	6998	9022	9567	7485	6029	4529	**60461**	
	Deaths per million pop	0	0	0	3	10	39	155	573	1087	**166**	
SPAIN	Deaths	1	1	6	13	43	99	295	914	1965	**3337**	b
	Population (000)	4234	4736	4618	5902	7938	7046	5341	4015	2924	**46755**	
	Deaths per million pop	0	0	1	2	5	14	55	228	672	**71**	
GERMANY	Deaths						48	72	200	550	**870**	c
	Population (000)	7881	7931	9377	10872	10243	13488	10644	7471	5876	**83784**	
	Deaths per million pop						4	7	27	94	**10**	
CHINA	Deaths	0	1	7	18	38	130	309	312	208	**1023**	d
	Population (000)	222	596	1264	1852	1802	1908	1544	1389	1423	**12000**	
	Deaths per million pop	0	2	6	10	21	68	200	225	146	**85**	
NETHERLANDS	Deaths	0	0	0	1	5	29	151	512	953	**1651**	e
	Population (000)	1753	1954	2097	2098	2151	2524	2130	1592	837	**17135**	
	Deaths per million pop	0	0	0	0	2	11	71	322	1139	**96**	
NEW YORK	Deaths	0	2	22	76	158	377	663	942	1323	**3563**	e
	Population (000)	2770	2578	2791	2533	2819	2656	1839	1062	783	**19831**	
	Deaths per million pop	0	1	8	30	56	142	361	887	1690	**180**	
TOTAL	**Deaths**	**1**	**4**	**37**	**129**	**334**	**1062**	**2674**	**6388**	**10006**	**20635**	
	Population (000)	**26025**	**28303**	**33313**	**37763**	**42529**	**46065**	**36359**	**26134**	**18443**	**294936**	
	Deaths per million pop	**0**	**0**	**1**	**3**	**8**	**23**	**74**	**244**	**543**	**70**	

a As at 30 March 2020
b As of 31 March
c As of 2 April. No breakdown in <60 years old
d Assumed 12 million population for Wuhan, with average China age profile
e As of 4 April

The data of table 1 can be compared to the data of the table below (in Spain deaths/million were similar for age groups below 40. The increase in deaths with the total number of case is visible for age groups over 40 and especially for age groups 70+). **https://blogs.lse.ac.uk/businessreview/2020/04/09/adjusting-covid-19-expectations-to-the-age-profile-of-deaths/)** ***Data as of 31 March 2020 for France, 31 March for Belgium, 2 April for England*** **(***Source: Japan CDC, Wikipedia, Korea CDC (KCDC), www.epicentro.iss.it, www.mscbs.gob.es, China CDC, Riou J. et al 'Adjusted age-specific fatality ratio during the Covid-19 epidemic in Hubei' (www.medrxiv.org), Robert Koch Institute, Rijksinstitut voor Volksgezondheid en Milieu, CDC (US), NY State, UN Population Estimate*)

Scenario 2 for Israel (based on Interactive Belgium site and Mortality Europe week 13. March 23-29) **with or without focused intervention.**

Belgium is an interesting test case, with a population of 11.5 Million in 2018 and with more than two million people aged 65 years and over, representing 19% of the country's population and a health care system similar to Israel. 140,000 Belgian are living in retirement homes (50,000 in Israel).

The population density of Belgium is 376/km^2 as of November 1, 2019 (Israel 395 people per square kilometer)

Transmission of SARS-CoV2 **within** Belgium was confirmed early March, at the end of the school holidays around carnival, when many tourists back from Northern Italy returned to work or school, resulting into an epidemic with a rapid increase in cases in March–April 2020. By the end of March, cases had been registered in all 10 provinces of the country.

Age	Male	Female	n/a	Total
90+	278	461	1	740
80–89	1,068	1,225	1	2,294
70–79	1,261	926	2	2,189
60–69	1,371	932	2	2,305
50–59	1,497	1,622	5	3,124
40–49	1,036	1,535	6	2,577
30–39	643	1,183	6	1,832
20–29	444	947	1	1,392
10–19	79	85	0	164
0–9	66	47	1	114
n/a	16	13	10	39
Total	**7,759**	**8,976**	**35**	**16,770**

Source: data collected by *Sciensano*, as of 2020/04/02.[206]

(Criticisms found in the literature: Not enough tests, late response, Transition government problematic in decision making)

I hypothesize, based on the Belgium case, the progress of COVID-19 in Israel (taking into account that in Israel, 65 + population is only 9.9% of the population vs 19% in Belgium).

In Belgium, 44% of cases are among the 60+ patients, with 91% of deaths in 65+ year's group. Of the total diagnosed cases, 13% are in retirement homes but represent probably 30% of the total deaths like in France (in France, on April 7, 3000 deaths in retirement homes out of a total of 10,000 deaths).
So protecting the 65+ group would be very effective and protecting retirement homes would be HIGHLY effective.

The following numbers which will probably double in the coming week in Belgium could predict what we will have in Israel within two weeks as we have 1/2 of Belgian elderly population. When In Belgium they had 9201 case, deaths were already at 383. Corrected by % of elderly in the population, it would have been 190 death -equivalent in Israel We have 79 deaths for 9755 cases so we are still today starting with in a better situation in theory as we do not yet intervene with prevention in Retirement Homes and we hear an Equalitarianism discourse from the MOH while the Coronavirus discriminates outrageously against Elderlies in his fatality.

Belgium with 16,770 cases on 02/04/2020 had the following repartition of COVID-19 deaths by age groups (See eurostats. http://www.euromomo.eu/index.html
and for Belgium https://epistat.wiv-isp.be/covid/covid-19.html).

COVID-19 deaths in Belgium by gender and age for 16,770 diseased patients					
Age	**Male**	**Female**	**n/a**	**Total Belgium/**	**Predicted Israel***
85+	236	236	5	477 / 240 or	90
75–84	236	158	1	395 / 200 or	80
65–74	115	50	3	168 / 84 or	10
45–64	58	24	0	82 / 82	82
25–44	2	4	0	6 / 6	6
0–24	0	1	0	1 / 1	1
n/a	2	0	12	14 / 14	14
Total	**649**	**473**	**21**	**1,143 / 627 or**	**283**

Source: data collected by *Sciensano*, as of 2020/04/02.[207]
* my prediction if Retirement Homes are fully protected today

Conclusions scenario 2: If we release the confinement in the general population in Israel and if we protect hermetically the retirement homes NOW we can save 156 (30%) deaths from a total of 520 deaths among 65+ (my prediction), so we will have still 364 deaths of which, with strict quarantine, we can protect half resulting in 180 deaths plus 103 deaths in the rest of the population reaching altogether 283 deaths instead of 627 deaths.
Influence of new high spreading events or hot spots (Bnei Brak, MeaSharim) may have a huge influence on these numbers, therefore containment and control of these hot spots is also essential.

-For Retirement Homes, see below the picture of a good friend and one of the two Metapelot (caretaker), (with their authorization) working by shift for him only, and who are in a very large retirement home that took strict measures after the first cases (no visitors, temperature at entrance for personnel with health declaration, PPE for personnel, Food only in room) in New Rochelle (NY) which was the first Hot Spot of COVID-19 in NY State. This retirement home, had today no more new cases. This is an alternative to the STRICT Isolation of residents with its staff.

Measures to apply specifically for the Retirement homes:

Isolate completely ALL retirement homes (50,000 people in Israel) including the STAFF or alternatively provide PPE to personnel.

Test (PCR) every one

Remove any staff positive or having prodromal symptoms (Fever, Cough, Headaches, Fatigue, and/or Diarrhea).

Move to proper Hotels/ hospitals the resident PCR positive or with prodromal symptoms. Equip them with phones, tablets so they can have a link with the family.

Repeat PCR tests after 10 days.

General disinfection of the Retirement home if one PCR positive case was found.

Divide the staff into two shifts. If necessary bring in tested PCR negative healthy volunteers/ unemployed people to back the staff.

One shift is going home under strict quarantine, until it will replace the working shift (NO HOLIDAYS- Strict home quarantine).

Staff wear always mask in the retirement homes. They must explain why to the residents.

Provide to the families of the working shift, proper help (volunteers can look after children or tested negative family members)

Replace the shift every week or two weeks under the same condition after PCR testing each individual of the entering shift.

Food (SAFE and Clean food) is provided either by volunteer associations or Army.

Keys for tests Rt-PCR (and serology when available).
For retirement homes
-Rt-PCR negative (Serology positive) Ok. (only if serology positive: Relax quarantine when going home. If serology is not available as below)
-Rt-PCR negative (Serology negative) Ok Strict quarantine when going home. —
For this category one could add stricter criteria such as:
-known case in the close or distant environment- dismissed.
-No known contact geographically or socially-OK
-Rt-PCR positive: go home with strict isolation if possible or hospital according to symptoms. In any case out of the retirement homes for at least 4-8 weeks.

Practically it should take a week to organize this plan if every office collaborates (Revaha, MOH, Army, Volunteer associations)

Extracts (Google translate) of an experience of Isolation of Staff and Residents in Lyon

https://actu.fr/auvergne-rhone-alpes/lyon_69123/coronavirus-pres-lyon-personnel-lehpad-vit-cloitre-residents-depuis-18-mars_32626357.html

Coronavirus:
Near Lyon, the EHPAD staff live cloistered with the residents since March 18.
Valérie, the director of the EHPAD Vilanova de Corbas, near Lyon, suggested to the staff that they live cloistered in the establishment to prevent the Covid-19 from entering. And it works!
Since March 18, the staff of the EHPAD Vilanova de Corbas near Lyon (including Valérie Martin, the director dressed in purple) live cloistered, 24 hours a day with the 108 residents of the establishment.

Her voice is a smile, and that smile she puts at the service of residents of the ECHP Vilanova ASCH in Corbas near Lyon (Rhône).
In the midst of the Corinavirus pandemic, in a particularly affected Rhône-Alpes region with 83 deaths, the establishment of the Lyonnaise metropolitan area was totally atypical.

24 hours cloistered with residents
None of the 108 residents have contracted the viruses. The reason? Since March 18, 2020, Valérie Martin and 29 employees of the EPHAD, managed by a non-profit association, have been living with residents 24 hours a day. Radical remedy to block the road to Covid-19.

It's Valérie, the director whose values of humanity are rooted in the body of her professional daily life, who had this astonishing idea of offering her staff to stay cloistered with the residents. And to put a stop to family life. The experience is unique in France. With the exception of a Charentes establishment which has started a few days ago.

"Staff members have had the choice, as they have the choice of dropping out if they feel tired, if they miss their loved ones too much. This is not Hotel California, we can leave ... "laughs the fifty-something whose work is a joy.

After 11 days of confinement, 0 cases of Covid-19 and an incredible atmosphere
Twenty-nine staff members immediately raised their hands when the idea was put to the vote. Or 50% of the total workforce.

This Saturday, March 28, 2020, the EPADH is in its 11th day of total confinement. Eleven full days without seeing his companions, his spouses, his children ... "But the sacrifice quickly forgotten when you see the eyes of the residents who can't get over it."
Four colleagues left, tired. They were mad when leaving us, but it is understandable to crack. It's difficult you know. We are fortunate to have the psychologist of the establishment that we can call whenever it is necessary. Technology helps us keep in touch with our families, but Skype is not a substitute for real life…
I'm going to tell you a secret, I am the grandmother of an 8-month-old girl and I feel bad telling myself that she will not recognize me when I go out… "I want to thank Vanessa here and Samia, two executives of the team who helped to unite this desire to break the social isolation of residents.
Each morning, Valérie, who has installed a bed in her director's office, goes around the floors in a dressing gown. "I say hello to everyone, I ask how are you ..."
So that families who can no longer visit their parents can take part in the adventure, the establishment maintains a daily newspaper on its Facebook page which gives information to everyone… "Families can also call every day to get news. And when they ask, they are called back in the presence of their parent. "
The confinement, the proximity day and night, created according to the director a new and particular atmosphere in the establishment.
"Everyone has come closer. Relationships between residents and staff have been strengthened. And within the team, the bonds are even stronger. We all have the feeling of sharing an adventure that nobody will forget. The residents talk to us a lot, they tell about their life, their family. We have time…
Containment is like a party. And for those who do not speak, having time to take their hand, a hand withered skin, but a hand that bears witness to so many episodes of life, is essential.
In Vilanova, there is little talk of the Covid-19, without ignoring it, but we live, and we are preparing for the next events. We're talking about the next lottery, Valérie's pictures are published every day.

We play pétanque in the garden, and we do the “Hola” in the dining room and in the corridors. Life is good in this EHPAD, and it is not so unusual